

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) Dispenser (1) of a product (11), typically of a stick-form cosmetic product, including a body (2) forming a lateral wall (20) of a moulded plastic material delimiting a central cavity (21) intended to contain said product, with, at its upper end, an upper orifice (22), and, at its lower end, typically a bottom (23) including a circular lower orifice (24), a cap (3) intended to seal said upper orifice (22), a propellant device including a base-plate (4) and a piston (5), said base-plate (4), typically fitted with a channel or hollowed-out part (40), engaging with said lower orifice (24) typically by a means of assembly that provides a rotation of said base-plate (4) relative to said lateral wall (20) or said bottom (23), said base-plate (4) including a so-called "male" helical thread axial screw (42), said piston (5) forming a support for said product, typically open-work with a hollowed-out part (51), and a central part (52) with a so-called "female" thread engaging by screwing with said axial screw (42), a toothed wheel (6) of external radius R engaging in rotation with said base-plate (4) to rotate said axial screw (42) manually, and correspondingly move said piston (5), and a means of sealing said lower orifice (24) and/or said hollowed-out part (40), characterised in that said lateral wall (20) includes an assembly:

a) of an inner jacket (7) including an inner tubular part (70), of area cross-section S_i and thickness E_c , forming at an upper end said upper orifice (22) and including at a lower end said lower orifice (24), said inner jacket typically delimiting said central cavity (21),

b) and an outer body (8) including an outer tubular part of area cross-section $S_e > S_i$ and thickness E_i , said thicknesses E_c and E_i being taken typically below 2 mm, so as to be able to manufacture said typically rigid dispenser using high throughput moulding and without dimensional distortion of said inner jacket (7) and said outer body (8) of plastic material, and in such a way that, since said inner tubular part is part of or is included in said outer tubular part, and cannot therefore be seen from the side, said outer body is able to have a cross-section different from that of said inner jacket, with in particular different radii of curvature for said outer body and for said inner jacket.

2. (original) Dispenser according to claim 1 wherein said base-plate (4) seals said lower orifice (24), is fitted with at least one hollowed-out part or channel (40), and typically forms a cavity (46) and wherein said toothed wheel (6) forms a typically leakproof plug for said hollowed-out part or channel (40) or said cavity (46), so as to form said sealing means and to allow said dispenser (1) to be filled through the bottom.

3. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 2~~ wherein said inner jacket (7) and said outer body (8) include radial and axial engagement means (12, 15), in such a way that they form a rigid body after a typically axial assembly of said inner jacket into said outer body.

4. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 3~~ wherein said thickness E_i is from $0.3.E$ to $0.7.E$ and said thickness E_e is from $0.3.E$ to $0.7.E$.

5. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 4~~ wherein said inner jacket (7) includes areas (72) with a high radius of curvature R_i typically above 30 mm, said outer body (8) including areas (82) with a radius of curvature R_e below R_i .

6. (original) Dispenser according to claim 5 wherein said outer body (8) includes typically plane surfaces (88), said surfaces, typically internally tangent to said inner jacket (7),

being connected via said areas with a radius of curvature R_e (82) typically less than 1 mm.

7. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 6~~ wherein said inner jacket (7) includes an outer roof (71) or a radial projection (710) engaging with said outer tubular part (80) of said outer body (8), to form said radial and/or axial engagement means (12), said inner roof (71) typically having an area corresponding to a cross-section difference $\Delta S = S_e - S_i$ for said upper end.

8. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 6~~ wherein said outer body (8) includes an inner roof (81) engaging with said inner tubular part (70) of said inner jacket (7), to form said radial and/or axial engagement means (12), said inner roof (81) typically having an area corresponding to a cross-section difference $\Delta S = S_e - S_i$ for said upper end.

9. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 8~~ wherein said bottom (23) is formed or includes externally a bottom (83) integral with said outer tubular part (80), said bottom (83) engaging typically with said inner jacket (7) to form said axial and/or radial engagement means (12).

10. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 8~~ wherein said bottom (23) is formed or includes an outer bottom (76) integral with said inner tubular part (70), said bottom (76) typically engaging with said outer body (8) to form said axial and/or radial engagement means.

11. (currently amended) Dispenser according to claim ~~claims 7 and 9~~ including said outer roof (71) and/or said radial projection (710) and said bottom (83).

12. (currently amended) Dispenser according to claim ~~claims 8 and 10~~ including an inner roof (81) and/or said radial projection (810) and an outer bottom (76).

13. (currently amended) Dispenser according to claim 7 ~~any one of claims 7, 9 to 11~~ wherein said outer tubular part (80) of said outer body (8) engages at its upper part (84) with said outer roof (71) or with said radial projection (710), so as to form an upper radial and/or axial stop, typically by means of a peripheral channel (840).

14. (currently amended) Dispenser according to claim 8 ~~any one of claims 8, 9, 10 and 12~~ wherein said tubular part (70) of said inner jacket (7) engages at its upper part with said inner roof (81) or with a radial projection (810), so as to form an upper radial and/or axial stop, typically by means of an upper edge (750).

15. (original) Dispenser according to claim 11 wherein said bottom (83) includes typically milled vertical projections (830), formed on its upper surface, engaging, typically by fitting or snapping-on axially, with said bottom (73) by means of vertical projections (730) formed on its inner surface.

16. (original) Dispenser according to claim 15 wherein said vertical projections (730) form an outer milled square engaging with an inner milled square formed by said vertical projections (830).

17. (original) Dispenser according to claim 12 wherein said outer bottom (76) engages with said outer tubular part (80), at its lower part, by snapping on so as to form said snap-on means (15).

18. (original) Dispenser according to claim 13 wherein said toothed wheel (6) has a diameter equal to $2.R$ at least equal to the width 1 or smaller dimension of the cross-section of said outer tubular part (80), in such a way that said toothed wheel (6) forms an axial stop for said outer tubular part (80).

19. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 18~~ wherein said inner (70) and outer (80) tubular parts are tangent, said area cross-section S_i falling within said area cross-section S_e , in such a way that said inner

tubular part (70) has no degree of freedom in the radial direction relative to said outer tubular part (80).

20. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 19~~ wherein said base-plate (4) is fitted to said inner jacket (7), by means either of said inner tubular part (70), or of said bottom (73), or of a vertical wall (74) integral with said bottom (73) or with said inner tubular part (70), typically by snapping-on axially (13) or engagement of male and female components or fitting, said base-plate (4) being typically fitted to said lateral jacket (70) or to said bottom (73) or to said vertical wall (74), typically by inserting said base-plate (4) and said associated piston (5) into said inner jacket (7) through said upper orifice (22).

21. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 20~~ wherein said base-plate (4) includes a typically cylindrical wall (44, 47) engaging in rotation with said toothed wheel (6) or with a skirt (62, 63, 64) of said toothed wheel, typically by snapping on or fitting in such a way as to form a radial and axial engagement means (17).

22. (original) Dispenser according to claim 21 wherein the axial engagement between said toothed wheel (6) and said base-plate (4) is formed by snapping on or fitting two typically cylindrical milled coaxial surfaces (61) and (43), which enmesh, or possibly by firmly fitting said toothed wheel (6) or said skirt (62, 63, 64) into said base-plate (4) or into said cylindrical wall (44, 47).

23. (currently amended) Dispenser according to claim 21 ~~any one of claims 21 to 22~~ wherein said toothed wheel, typically by means of said central skirt (63), engages in a leakproof way with said inner tubular part (70), or with said bottom (73), or with said vertical wall (74), to form said leakproof seal means (14) in a way so as to render optional, or possibly to eliminate, the leakproof seal of said means of assembly of said base-plate (4)

to said inner jacket (70), or to said bottom (73) or to said vertical wall (74).

24. (currently amended) Dispenser according to claim 21 ~~any one of claims 21 to 22~~ wherein said toothed wheel (6) engages in a leakproof way with said base-plate (4), and possibly with said inner tubular part (70), or with said bottom (73), or with said vertical wall (74), said base-plate possibly engaging in a leakproof way with said inner tubular part (70), or with said bottom (73), or with said vertical wall (74).

25. (currently amended) Dispenser according to claim 20 ~~any one of claims 20 to 24~~ wherein said toothed wheel (6) includes three concentric skirts: an inner skirt (62) typically bearing said milled surface (43), a central skirt (63) typically engaging in a leakproof way with said vertical wall (74), an outer skirt (64) forming a manual rotation button.

26. (original) Dispenser according to claim 25 wherein the engagement of said toothed wheel (6) with said base-plate, said base-plate engaging with said inner jacket (7), forms a succession of concentric walls which engage, denoted from inside to outside "62/44/63/74/64", the walls (62) and (43) ensuring the engagement in rotation of said toothed wheel and of said piston, the walls (63) and (74) providing the leakproof seal between said toothed wheel and said inner jacket, the walls (62) and (74) typically exerting a radial compression on the intermediate walls (44) and (63).

27. (original) Dispenser according to claim 25 wherein the engagement of said toothed wheel (6) with said base-plate, said base-plate engaging with said inner jacket (7), forms a succession of concentric walls which engage, denoted from inside to outside "62/44/74/63/64", the walls (62) and (43) ensuring the engagement in rotation of said toothed wheel and of said piston, the walls (63) and (74) providing the leakproof seal between said toothed wheel and said inner jacket, the walls (62) and (64)

typically exerting a radial compression on the intermediate walls (44) and (74).

28. (original) Dispenser according to claim 25 wherein said base-plate (4) includes two cylindrical walls (44) and (47), and wherein the engagement of said toothed wheel (6) with said base-plate, said base-plate engaging with said inner jacket (7), forms a succession of concentric walls which engage, denoted from inside to outside "62/47/63/44/74/64 ", the walls (62) and (47) typically ensuring the engagement in rotation of said toothed wheel and said piston, the leakproof seal being typically provided between said base-plate (4) and said inner jacket (7) on the one hand and between said plug (6) and said base-plate (4) on the other hand, the walls (62) and (64) typically exerting a radial compression on the intermediate walls (47), (63), (44) and (74).

29. (currently amended) Dispenser according to claim 20 ~~any one of claims 20 to 24~~ wherein said toothed wheel includes only one skirt (62) engaging with said cylindrical wall (44) of said base-plate (4), so as to form a succession of concentric walls which engage, denoted from inside to outside "62/44".

30. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 29~~ wherein said toothed wheel includes a cylindrical outer skirt (64) of diameter equal to $2\sqrt{R}$, said diameter being typically at least equal to the width or smaller dimension denoted "l" of said outer tubular wall (80), so as to facilitate the manual rotation of said toothed wheel, by means particularly of a channelled-out part (87) giving access to said toothed wheel (6).

31. (currently amended) Dispenser according to claim 20 ~~any one of claims 20 to 26~~ wherein the material forming said toothed wheel (6) and the material forming said inner jacket (7) are selected in such a way that the material forming said inner jacket (7) is indented to a greater degree than that forming said

base-plate, so as to provide over time a permanent compression of said vertical wall (74) against said central skirt (63).

32. (original) Dispenser according to claim 31 wherein the material forming said inner jacket (7) is selected from among polyolefins, and typically PE or PP, and wherein the material forming said toothed wheel is selected from SAN, ABS or a mixture of the two, the material forming said outer body being selected typically again from SAN, ABS or a mixture of the two.

33. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 32~~ wherein said inner jacket (7) includes an upper skirt (75) intended to engage with said cap (3), said cap engaging with said outer body (8) according to a common cross-section, so as to have a continuity of line and appearance, and typically in such a way that said cap (3) is typically in the extension of said outer body (8) and has possibly the same outer cross-section as the latter.

34. (original) Dispenser according to claim 33 wherein said cap (3) includes an inner leakproof lining (31) and an outer shell (30), said inner leakproof lining (31) being anchored to said outer shell (30) by an axial assembly means (34), said leakproof lining (31) engaging with said upper skirt (75) in a typically leakproof way, said leakproof lining (31) including a peripheral groove (312) engaging with an upper edge (750) of said upper skirt (75).

35. (original) Dispenser according to claim 34 wherein said outer shell (30) includes an inner shoulder (300) and a lower wall (301), typically opposite said upper skirt (75), said dispenser being closed, and wherein said leakproof lining includes a peripheral skirt (314), in such a way that said peripheral skirt (314) is subject to a radial compression between said lower wall (301) and said upper skirt (75), and/or to an axial compression between said shoulder (300) and said upper edge (750).

36. (currently amended) Dispenser according to claim 34 ~~any one of claims 34 to 35~~ wherein said outer shell is typically of ABS, said inner leakproof lining being typically of PP.

37. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 36~~ wherein said central part (52) forming a nut and/or said axial screw (42) include radial elasticity means, constituting a capacity for radial deformation under stress, such that, in the event of forced rotation under said stress and of locking of said screw relative to said nut, the "male" and "female" threading is allowed to disengage, to be subject in other words to a relative axial displacement, by overlapping of the threading and clearance of a screw thread, without said engagement between screw and nut being destroyed.

38. (currently amended) Dispenser according to claim 1 ~~any one of claims 1 to 37~~ wherein said outer body (8) has a typically rectangular cross-section with a form factor L/l , L and l being the largest and the smallest dimension respectively, from 2 to 10, and typically from 3 to 6, with L being typically from 30 mm to 100 mm.

39. (original) Dispenser according to claim 38 wherein, in the event of a typically high form factor, and in the event of a radius R typically below 10 mm, an additional means (9), typically a tractor, is anchored to said toothed wheel, typically by means of a notched surface (90) engaging with said toothed wheel with notched outer skirt (64), so as to facilitate the rotation of said small diameter toothed wheel by increasing its manual contact surface.